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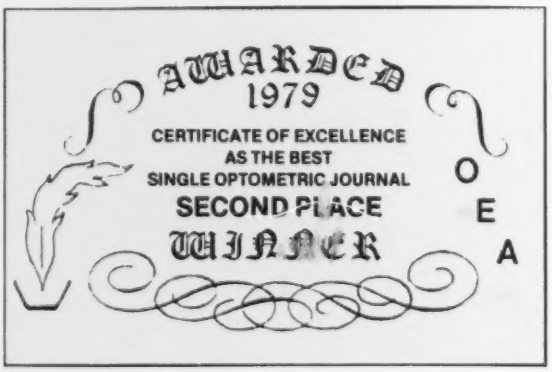

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Analysis of Optometric Students, Academic Year 1975-1976

Douglas W. Redmond and Joan R. Allen, M.A.

An analysis of first through fourth year students enrolled in the schools and colleges of optometry in 1975-1976 was conducted by the Optometric Manpower Resources Project, American Optometric Association, between September 6, 1977, and September 29, 1978. A final report was presented to the Division of Associated Health Professions, Department of Health, Education and Welfare, as required under contract number HRA 231-77-0045. This article represents the findings of that analysis. The content of this publication does not necessarily reflect the views or policies of the Department of Health, Education and Welfare.

Douglas W. Redmond is Director of the Optometric Manpower Resources Project, American Optometric Association, and was principal investigator for the study. Joan R. Allen, M.A., was statistical consultant.

Introduction

For some time prior to 1975 the optometric community felt the need for detailed information about students enrolled in schools and colleges of optometry, particularly with respect to their financial resources for supporting their professional education. Some information was available on an individual school basis, but the lack of comparability of available data, both in content and format, among schools and colleges precluded the possibility of pooling and analyzing these data.

In the Spring of 1975, the representatives of the American Optometric Association (AOA), the Association of Schools and Colleges of Optometry (ASCO), and the Optometric Manpower Resources Project (OMRP) met to discuss the development and implementation of a survey of all students enrolled in the thirteen schools and colleges of optometry. Continuing discussions culminated in the design of a questionnaire to elicit the data felt necessary for describing the optometric student population. This questionnaire was to be distributed to all students during the registration periods for the fall 1975 term with the assistance of representatives of the American Optometric Student Association (AOSA). Two follow-up attempts were made during the academic year to elicit additional responses. The survey period ended in May, 1976. Unfortunately, repeated attempts to secure the cooperation of the University of California, Berkeley, School of Optometry failed, and no questionnaires were returned.

A limited amount of data was later obtained through the administration of the school. This presented some problems for data presentation and analysis

which are discussed in greater detail in the Methodology. All completed questionnaires were directed to the offices of the OMRP and locked in a private file room to insure confidentiality. Response rates by school and class were computed and adjusted as questionnaires were received. The overall response rate was approximately 70 percent of all first through fourth year students enrolled in the twelve participating schools and colleges of optometry for the academic year 1975-76. Due to lack of funds, further processing and analysis of these data were postponed until the award of this contract in September, 1977.

This report describes demographic, socioeconomic and financial resource characteristics of optometric students for 1975-76. Wherever comparable data were available from the 1970-71 survey of how health professions students finance their education, the data from the two survey periods were compared for time trends. The number of variables for which there was comparability was small, and thus, the analysis for trends was more limited in scope than desired. The body of the report presents analysis and discussion of findings.

Summary

Students at the thirteen schools and colleges of optometry were surveyed for demographic, socioeconomic and financial characteristics in 1975-76. Twelve of the thirteen schools participated in the survey and submitted student questionnaires. The Western census region was found to have the highest ratio of students to population. Overall, students indicated that they intended to practice in communities similar to those of their permanent residence.

Optometry students were, in large measure, white males. The median reported parents' income was approximately $17,000. There was no relationship between students' year of study and median parents' income. There was also no apparent relationship between parents' income and school control (public or private). There was a weak association between father's highest level of education and student's year of study. The median available assets for financing optometric education were $766.00 and were clearly related to class, with first year students reporting the greatest amounts. The median expected cost among survey respondents was $25,781 for four years, and this also was clearly related to class, with first year students anticipating the highest costs.

This finding was in direct opposition to the findings reported for a 1970-71[1] survey, where fourth year students indicated the greatest costs. Eighty-two percent of the students anticipated being in debt for their optometric education, and the median amount was $10,585. Parents and spouses provided the greatest average percent support among the seventeen sources listed on the questionnaire. Scholarships, on the average, provided very little support. Federal programs varied from 31.6 percent to 14.1 percent in the average percent of support provided. Overall, students drew on a wide variety of sources for financing their optometric education.

TABLE A

	Ratio≤1.6 per 100,000	Ratio≤1.6 per 100,000	TOTAL
Number of States with 1 or more schools	3	9	12
Number of States with no schools	25	14	39
Total Number of States	28	23	51

TABLE B

	Students Attending a School		
Census Region	Within Region of Residence	Outside Region of Residence	TOTAL
Northeast	749	129	878
North Central	877	198	1075
South	811	211	1022
West	615	74	689
TOTAL	3052	612	3664

Geographic Distribution

State of permanent residence was requested of students as an indicator of where optometry students come from geographically and of the mobility of students in seeking optometric education, as well as the influence of school location on the ratio of optometry students to the resident population. The overall ratio of students who gave a state of permanent residence to the U.S. resident population was 1.8 students per 100,000 resident population. This ratio was highest in the West (2.1 per 100,000) and lowest in the South (1.5 per 100,000). The ratios in the Northeast and North Central regions were equal (1.9 per 100,000). On a regional basis, the number of schools was not a significant factor since each region had three schools, with the exception of the North Central region which had four. This fourth school, however, had just opened and had only twenty-one first year students at the time of the survey. On an individual state basis, the ratio of students to population varied from 0.0 for the District of Columbia (implying only that there were no respondents from the District of Columbia) to 5.3 for Wyoming. The median ratio for the fifty states was approximately 1.6 students per 100,000 resident population. Using this median ratio as a dividing point, Table A shows the number of states with and without optometry schools with ratios of more and less than 1.6 students per 100,000 resident population.

The chi-square test for independence applied to this contingency table of ratio and presence of school yielded a statistic which was significant at the 5 percent confidence level ($X^2 = 6.09$; $X^2_{.05,1} = 3.84$). The inference that can be made is that indeed the presence of an optometry school in a state influences the number of state residents who pursue an optometric education.

The mobility of students in seeking optometric education is somewhat reflected by the diversity of the location of schools attended by the students from within a state or region. Table B gives the numbers of students from each region and how many were attending schools within their region.

As would be expected, there was a very strong association between the region of residence and the location of the school attended ($X^2 = 33.85$; $X^2_{.05,3} =$

APPENDIX TABLE 2A

Number of Optometry Students by State of Permanent Residence and School Attended: 1975-1976

(All Students)

Location	Total	School/College of Optometry												
		Berkeley*	State Univ. of New York	Alabama	Ferris	Houston	Illinois	Indiana	New England College of Optometry	Ohio	Pacific	Pennsylvania	Southern Calif. College of Optometry	Southern
Total	3900	236	103	107	21	268	571	280	285	217	303	552	364	592
U.S. Total	3663	126	94	105	21	257	568	263	245	213	289	538	354	590
Non-U.S.	23	0	3	1	0	5	0	4	2	0	5	2	1	0
REGIONS														
Northeast	878	6	93	1	0	0	48	15	225	4	11	431	23	21
North Central	1075	5	1	1	21	29	440	217	7	199	39	7	40	69
South	1022	2	0	102	0	220	42	24	10	5	9	99	20	489
West	689	113	0	0	0	8	37	7	3	5	231	2	271	12
DIVISIONS														
New England	241	2	0	1	0	0	4	1	168	0	8	45	7	6
Mid Atlantic	636	4	93	0	0	0	45	14	57	4	3	386	16	15
East North Central	807	4	1	0	21	3	316	204	7	199	9	7	21	15
West North Central	268	1	0	1	0	25	124	13	0	0	30	0	20	54
South Atlantic	459	2	0	25	0	13	36	17	9	4	6	97	14	237
East South Central	229	0	0	75	0	11	5	5	0	1	0	2	0	129
West South Central	334	0	0	2	0	197	1	1	2	0	3	0	6	123
Mountain	149	4	0	0	0	6	18	2	2	4	54	2	53	4
Pacific	540	109	0	0	0	2	19	4	2	1	176	0	218	8
STATES														
Alabama	66	0	0	64	0	0	0	0	0	0	0	0	0	2
Alaska	4	0	0	0	0	0	0	1	0	0	3	0	0	0
Arizona	26	1	0	0	0	2	3	0	0	0	8	2	9	2
Arkansas	55	0	0	0	0	2	0	0	2	0	0	0	0	52
California	346	108	0	0	0	2	11	2	2	0	14	0	201	6
Colorado	24	0	0	0	0	2	6	0	0	0	6	0	10	0
Connecticut	49	0	0	1	0	0	3	1	24	0	0	16	2	2
Delaware	11	0	0	0	0	0	0	0	0	1	0	7	1	2
District of Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Florida	128	1	0	7	0	11	15	5	2	0	6	10	8	62
Georgia	48	0	0	4	0	0	1	2	0	0	0	0	1	40
Hawaii	23	1	0	0	0	0	4	1	0	1	8	0	6	2
Idaho	12	0	0	0	0	0	0	0	0	3	6	0	3	0
Illinois	190	0	0	0	0	0	176	12	0	0	0	0	2	0
Indiana	182	0	0	0	0	0	4	172	0	0	0	0	5	2
Iowa	70	0	0	0	0	0	48	3	0	0	6	0	3	8
Kansas	47	0	0	1	0	14	5	0	0	0	2	0	5	21
Kentucky	40	0	0	8	0	10	3	2	0	1	0	2	0	15
Louisiana	46	0	0	2	0	11	0	0	0	0	0	0	1	31
Maine	28	1	0	0	0	0	0	0	16	0	2	7	1	2
Maryland	71	0	0	1	0	0	8	1	5	1	0	38	2	15
Massachusetts	132	1	0	0	0	0	1	0	107	0	5	16	2	0
Michigan	133	1	1	0	21	2	74	7	2	5	3	5	7	6
Minnesota	43	1	0	0	0	0	26	3	0	0	11	0	2	0
Mississippi	37	0	0	1	0	2	0	3	0	0	0	0	0	31
Missouri	37	0	0	0	0	3	19	5	0	0	0	0	1	8
Montana	27	1	0	0	0	0	6	0	0	0	17	0	3	0
Nebraska	40	0	0	0	0	5	9	0	0	0	6	0	6	15
Nevada	9	0	0	0	0	0	0	0	2	0	3	0	5	0
New Hampshire	10	0	0	0	0	0	0	0	7	0	2	2	0	0
New Jersey	77	0	5	0	0	0	1	3	3	0	0	59	2	2
New Mexico	16	2	0	0	0	3	0	0	0	1	3	0	7	0
New York	300	4	87	0	0	0	28	7	48	0	3	100	13	10
North Carolina	78	1	0	5	0	2	0	3	0	0	0	17	0	50
North Dakota	17	0	0	0	0	0	10	0	0	0	5	0	2	0
Ohio	225	0	0	0	0	0	11	5	5	191	3	2	3	4
Oklahoma	66	0	0	0	0	19	1	0	0	0	3	0	3	40
Oregon	115	0	0	0	0	0	0	0	0	0	113	0	2	0
Pennsylvania	260	0	1	0	0	0	15	4	5	4	0	227	1	2
Rhode Island	15	0	0	0	0	0	0	0	10	0	0	3	1	0
South Carolina	33	0	0	4	0	0	1	1	0	0	0	0	0	27
South Dakota	14	0	0	0	0	3	6	1	0	0	2	0	0	2
Tennessee	86	0	0	2	0	0	3	0	0	0	0	0	0	81
Texas	167	0	0	0	0	165	0	1	0	0	0	0	1	0
Utah	14	0	0	0	0	0	3	0	0	0	0	0	9	2
Vermont	7	0	0	0	0	0	0	0	3	0	0	2	0	2
Virginia	54	0	0	5	0	0	5	3	2	0	0	17	1	21
Washington	52	0	0	0	0	0	4	0	0	0	39	0	9	0
West Virginia	35	0	0	0	0	0	5	1	0	1	0	7	0	21
Wisconsin	75	3	0	0	0	2	51	9	0	3	3	0	3	2
Wyoming	20	0	0	0	0	0	0	2	0	0	12	0	6	0
UNKNOWN	214	110	6	1	0	6	3	13	38	4	9	12	9	2

SOURCE: Data – Survey of Students Enrolled in Schools, Colleges of Optometry, 1975-1976.

*Uninflated data – administratively obtained information only.

7.815). One would expect that the private schools would have students from a greater variety of regions, since residency would not have any effect on tuition. However, although six of the thirteen schools were privately controlled, there was little student mobility on a regional basis. The same was generally true on a state by state basis, with students showing a pronounced proclivity for attending the optometry school or schools closest to their states of residence. Students from Michigan were distributed over the greatest number of schools (12) and students from Alabama, Alaska, and Oregon, the fewest (2 each).

Another indicator of mobility is whether or not students intend to practice in a community similar to that of their permanent residence. Each student was asked to classify his community of permanent residence as rural, suburban or urban. He was also asked to indicate the type of community in which he intended to practice upon completion of his optometric training.

The percentages on the diagonal in Table C show that students from suburban and rural communities generally intended to practice in similar communities with very little shift to urban areas. Students from urban communities, however, seemed to have demonstrated more of an interest in shifting to less urban aras, particularly to suburban communities. Analagous data for each of the four classes indicated that the same inclinations were reported by students in each individual class as were evidenced overall.

TABLE C

Type of Community of Intended Practice	Rural	Suburban	Urban	TOTAL
TOTAL	321 (100.0%)	1248 (100.0%)	947 (100.0%)	3016 (100.0%)
Rural	525 (64.0%)	158 (13.0%)	137 (15.0%)	820 (27.0%)
Suburban	240 (29.0%)	979 (78.0%)	363 (38.0%)	1582 (53.0%)
Urban	56 (7.0%)	111 (9.0%)	447 (47.0%)	614 (20.0%)

TABLE D
Percentage Distribution by Racial/Ethnic Category and Sex

	TOTAL	Male	Female
TOTAL	100.0	100.0	100.0
White	92.0	94.0	80.0
Non-White	7.0	5.0	19.0
Unknown	1.0	1.0	1.0

Racial/Ethnic Background and Sex Distribution

Overall, 88 percent of optometry students were male and 12 percent female. Ninety-two percent of students were white, 7 percent were black, Asian or other, and 1 percent did not specify a racial/ethnic category. The proportion of minority students did differ by sex, as shown in Table D, with a noticeably greater proportion of female students who were other than white.

Among the thirteen schools, only Berkeley and the Southern California College of Optometry had less than 90 percent of male students who were white, with these concentrated in the Asian category. Berkeley and the State University of New York, State College of Optometry, both had almost one-half of their female students indicate that they were non-white.

Although it was intended to present data for all students by racial/ethnic background and sex by class, the differential response rates by class interacted with the by-school inflation factors in such a way as to produce distorted class figures. Thus, this discussion is based on data from respondents only. Figure 1 shows the total numbers of students by sex in each class and the percentage of those who were non-white. The number of male students who responded was twice as great for the first year class as for the fourth year class and the number of female students was three times as great for the first year class as for the fourth year class. This may be due to the much lower response rate among fourth year students than for other classes. Nevertheless, the percentage of non-white males differed only minimally from class to class. The proportion of non-white female students, however, had a curious distribution. The proportion of non-white females was approximately 20 percent in the first and fourth years and only 10 percent in the second and third years. The reason for such a distribution is unclear.

Looking at the census division of permanent residence by racial/ethnic background, it was found that, as expected, the largest number of Asian students came from the Pacific division. The greatest proportions of black students came from the Mid-Atlantic and East North Central divisions. Although the Mid-Atlantic division accounted for 29 percent of black students, black students only comprised 3 percent of students from this division.

Socioeconomic Characteristics of Students' Parents

Students were asked to estimate their parents' combined annual income. Recognizing that this was a sensitive item, categories for "Prefer not to respond" and "Don't know" were provided to minimize the impact on the survey response rate. Approximately one-fifth of the students availed themselves of these response categories. Based on the responses of the students who specified an income category (N = 1946), the median parental income was approximately $17,000 in 1975-76. The median parental income for optometry students reported in 1970-71 was approximately $10,200. Allowing for income inflation at 5 percent per year yielded a 1970-71 adjusted median income of $13,000 which was still quite a bit below the reported 1975-76 median income. However, allowing for higher rates of inflation quickly eroded the difference, until at an income inflation rate of 10 percent per year for the five-year interim period, the 1970-71 adjusted median income became $16,400; only slightly less than the 1975-76 median figure. Even though inflation may have accounted for the apparent shift in the lower income categories, the proportion of students reporting parental incomes greater than $20,000 appeared considerably larger for 1975-76 than for 1970-71.

Another approach to investigating trends in parental income, over time, is to compare the median parental incomes for each class year in 1975-76. Comparable data was not available for

the 1970-71 survey.

There was no apparent relationship between class and median parental income, and also there was no shift in socioeconomic status of optometry students, as measured by income, from 1971 to 1975, the entering years of these students.

A question often asked about optometry schools is whether or not they differ with respect to socioeconomic status. Table E shows the median incomes for each school. The schools are divided into two categories—state and private.

There was some apparent variation of median income, notably between the State University of New York and the Pennsylvania College of Optometry. However, using the overall median income as a dividing point, there was no significant difference between private and state schools with respect to median parental income.

Data for one additional socioeconomic indicator were collected from optometric students. Each student was asked to indicate the highest educational levels of his father and mother. A combined variable of parents' education was generated from these responses. For 45 percent of the optometry students who responded to this item, the highest level of education was the same for both parents. For 20 percent of the students, both parents had at least some college education. Only 6 percent of students reported that neither parent had completed high school. The categories used in the 1970-71 health professions' student survey[1] dealt with

TABLE E

	N	Median Parental Income
1 State Schools[a]		
SUNY	73	$14,100
Alabama	76	14,500
Ferris	18	17,500
Houston	114	17,800
Indiana	208	17,300
Ohio	133	16,700
2 Private Schools		
Illinois	342	17,500
New England	119	15,600
Pacific	163	14,900
Pennsylvania	233	18,000
SCCO	243	17,600
Southern	228	17,300

[a]Berkeley excluded, no responses available

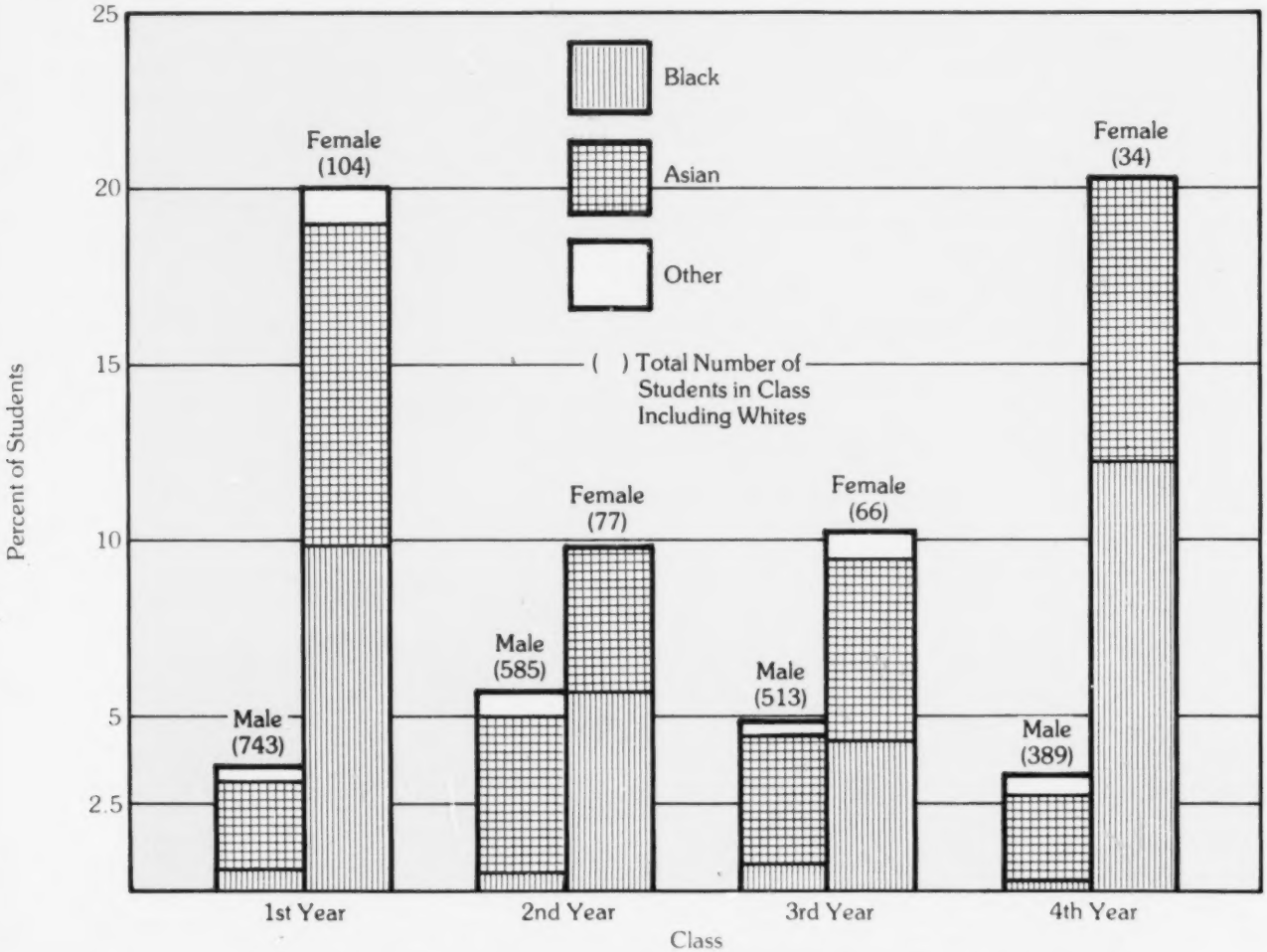

Figure 1. PERCENT OF NON-WHITE STUDENTS BY CLASS AND RACE

father's educational level only, but were similar enough to generate Table F for comparison.

There did seem to have been a shift in the highest educational level of fathers of optometry students. Although a slightly greater proportion of optometry students surveyed in 1975-76 reported that their fathers had not completed high school, 57 percent reported post high school education for their fathers in 1975-76 as opposed to 46 percent in 1970-71. This was particularly interesting in light of the fact that the comparison of parents' median income for the two survey years did not indicate an increase over time, once inflation was taken into account.

Another way to approach this question is to look at parents' education by student's class for the 1975-76 survey data alone. Table G was used to test for association of father's educational level with student's class. Chi-square for this table was significant at the 10 percent level, but not at the 5 percent level indicating a weak association between father's education and student's class.

It is interesting that over all schools, the parents' educational level reported most frequently was "both parents completed high school" (Table H) and that the categories in the other two columns of the table were not reported more frequently. It is somewhat surprising that there was noticeable variation among the schools and that the students from only two schools most frequently reported father's education as graduate or professional and mother's education as college. The reason that this is of note is that it had been commonly believed within the profession that optometry students come in large measure from professional families which often have one parent who is an optometrist. The data in Table H were in opposition to this. Another point of interest is that in the schools whose students most frequently reported high school completion as the highest level of education for both parents, the proportions of those students were considerably greater than the proportions of students who reported either "Father College, Mother High School" or "Father Graduate or Professional, Mother College" as the highest levels of parents' education.

TABLE F

Father's Highest Education Level	1970-71	1975-76
TOTAL	100.0%	100.0%
Not High School Graduate	10.0%	13.6%
High School Graduate or Vocational Training	34.0%	28.7%
Attended and/or Completed College	24.0%	32.7%
Graduate or Professional Training	22.0%	24.1%

TABLE G

Father's Education	Total	1st Year	2nd Year	3rd Year	4th Year
TOTAL	2446	822	642	566	416
Not High School Graduate	336	109	83	88	56
High School/Vocational	708	220	195	167	126
College	808	291	207	194	116
Graduate/Professional Training	594	202	157	117	118

Financing Optometric Education

Students were asked to estimate their current total dollar assets available for financing the remainder of their education, excluding loans, scholarships and anticipated earnings. Fully 28 percent of the students who gave an estimate reported assets of less than $200 and only 17 percent reported assets of more than $3,000. The median for available assets was approximately $766. The median assets reported for each class are given in Table I.

TABLE H

School	Educational Level Reported by Greatest Proportion of Students	Proportion	Father College, Mother HS[a]	Father GP[b] Mother College
Overall	Both High School	19.3	13.5	12.2
SUNY	Both High School	23.9	13.0	5.4
Ferris	Father College, Mother HS	25.0	25.0	0.0
Alabama	Both College	15.4	14.3	13.2
Houston	Father GP, Mother College	17.8	8.9	17.8
Illinois	Father GP, Mother College	16.2	14.1	16.2
Indiana	Both High School	24.2	12.7	10.3
New England	Both High School	21.1	11.8	10.6
Ohio	Both High School	24.8	18.8	8.5
Pacific	Both High School	22.6	10.3	11.8
Pennsylvania	Both High School	24.6	15.5	8.7
SCCO	Both College	20.5	14.0	14.0
Southern	Both College	16.4	12.8	12.5

[a]HS = High School [b]GP = Graduate or Professional Training

TABLE I

Class	Median Assets
All Classes	$ 766
First Year	1147
Second Year	710
Third Year	671
Fourth Year	477

There was clearly a relationship between class and assets, and indeed the chi-square for association was significant at the 1 percent level. It is not surprising that students' assets dwindle during their optometric education since few optometric professional programs provide the flexibility of schedule necessary for appreciable amounts of money to be earned.

The next question was whether or not the amount of available assets differed by school. There was no relationship between school control (private or state) and median student assets. The median available assets for each school are given in Table J in rank order.

TABLE J

School	Median Assets
SUNY	$1235
Ohio	1031
Ferris	999
Illinois	883
Southern	844
SCCO	803
Pacific	786
Houston	780
Pennsylvania	722
New England	526
Alabama	499
Indiana	414

The school whose students had the highest median was SUNY, and this was about three times the median for Indiana students. This considerable variation was not related to school control nor was it related to the census region in which the school was located. There was also no apparent correlation with school rank by parents' median income. There were no comparable data available from the 1970-71 survey with which to make a comparison.

Students were also asked to approximate their expected costs for financing their four years of optometric education, including living expenses, tuition, supplies, etc. The median expected cost among survey respondents was $25,781 for four years or a median annual cost of $6,445. The 1970-71 survey reported an average annual expense of $5,251, but it was not clear whether this was a mean or median figure. The mean expected cost for the 1975-76 survey respondents was $26,008 or $6,502 per annum (with standard deviations of $7,876 and $1,969, respectively). If the 1970-71 figure was a mean, comparison with the 1975-76 mean annual expected cost yields a 24 percent increase. Table K shows the median and mean total and annual costs for 1975-76 and the "average" annual costs for 1970-71 by class.

There was an apparent relationship between expected costs and class. For the 1975-76 survey data, chi-square for association was significant at the 5 percent level ($X^2 = 30.09$; $X_{.05,18} = 28.87$). The trend indicated by these data, that first year students expected their costs to be higher than fourth year students, is consistent with the economics of the period. It is of note that the 1970-71 data exhibited a trend in the opposite direction. Although the two questionnaire items differed somewhat, this would not account for the trend reversal.

The median expected four year and annual costs were also examined for variation among the twelve schools for which data were available. In Table L, the schools are listed in rank order with respect to median four year expected cost.

This table shows considerable variation in students' expected costs for their optometric educations at the various schools. It should be noted here that all of the schools with median expected costs greater than the overall median ($25,781) are privately controlled and all of the schools with median expected costs less than the overall median are state-controlled.

Future financial burden on the student was sought by asking each student to estimate his total indebtedness at graduation. Overall, for 82 percent of students responding, expected indebtedness was greater than zero, with a median of $10,585. Table M

TABLE K

	1975-1976				1970-1971
Class	Median 4 Year Cost	Median[a] Annual Cost	Mean 4 Year Cost	Mean[b] Annual Cost	"Average" Annual Cost
TOTAL	$25,781	6,445	26,008	6,502	5,251
First Year	26,311	6,578	26,268	6,567	4,668
Second Year	25,875	6,469	26,245	6,561	5,171
Third Year	25,559	6,390	25,848	6,462	5,669
Fourth Year	24,615	6,154	25,347	6,337	5,764

[a]Median annual cost = 1/4 x median four year cost

[b]Mean annual cost = 1/4 x mean four year cost

TABLE L

Rank	School	Median Expected Four Year Cost	Median Expected Annual Cost
1	Southern	$31,726	$7,932
2	New England	28,667	7,167
3	Pennsylvania	27,315	6,829
4	SCCO	27,235	6,809
5	Illinois	27,122	6,781
6	Pacific	27,083	6,771
7	Alabama	24,500	6,125
8	SUNY	20,714	5,179
9	Indiana	20,541	5,135
10	Houston	19,375	4,844
11	Ferris	18,545	4,636
12	Ohio	17,474	4,368

shows the proportion of each class who expected to be in debt and their median expected amount of indebtedness.

Not only did a greater proportion of the first through third year students expect to be in debt at graduation, but also they anticipated larger debts. This finding was consistent with the greater anticipated costs for the first through third year students. The questionnaire item on the 1970-71 survey relating to indebtedness was sufficiently different to preclude any comparison on this point.

The proportion of students with anticipated indebtedness and the median expected amount were also analyzed by school. Table N lists the schools in rank order by the proportion of students anticipating debts. The median expected indebtedness and the rank for that amount are also given.

It should be noted that Ferris had only a first year class at the time of this survey and a large proportion of these students responded that they did not know what their indebtedness would be. It is interesting that the median amount of expected indebtedness at a school did not vary consistently with the proportion of students at the school who anticipated any indebtedness. It is also of note that fewer than two-thirds of the students at Houston reported any expected indebtedness at all and for those that did, the median was the second smallest among schools.

Information about the sources available to optometry students for financing their education was a motivating factor in conducting this survey. Students were asked to indicate their sources and the percent of support provided by each source.

The seventeen possible sources listed in the questionnaire item, ranked by the average percent support provided by each source, the number of students contributing to the average, and the average percent support are shown in Table O.

As would be expected, parents and spouses provided the greatest amount of support for students who indicated them as a source. Scholarships contributed only a small percentage of support to the students who had indicated them as a source. It is interesting that summer employment was the most frequently reported source of support, but that the average percent support thus provided was only 17.5 percent. Clearly optometric students finance their educations from a variety of sources of which no single source, on the average, provides more than 50 percent support.

TABLE M

Class	Percent of Students With Expected Indebtedness	Median Amount
Overall	82.0	$10,585
First Year	83.8	11,500
Second Year	83.9	10,716
Third Year	82.5	10,048
Fourth Year	75.5	8,773

TABLE N

Rank	School	Percent of Students	Median Debt	Rank
1	Ferris	93.8	6,500	10
2	Alabama	87.8	9,999	6
3	Illinois	86.0	11,486	3
4	SCCO	85.4	11,302	4
5	SUNY	84.5	8,778	8
6	Pacific	84.1	9,500	7
7	New England	83.4	10,606	5
8	Pennsylvania	83.2	>12,000[a]	1.5
9	Southern	82.1	>12,000[a]	1.5
10	Indiana	80.3	7,999	9
11	Ohio	70.5	5,500	12
12	Houston	64.4	6,267	11

[a]Median not computable; amount in open ended category

TABLE O

Source	Rank	Average Percent Support	Number of Students
Parents	1	46.8	1542
Spouse	2	43.6	896
Military	3	37.0	269
Federal Guaranteed Student Loan	4	31.6	986
Other Loan	5	26.2	264
Other	6	26.0	210
Health Professions Student Loan	7	20.7	793
Self (not work study)	8	18.5	860
Summer Employment	9	17.5	1575
State Scholarship	10	15.8	238
Health Professions Scholarship Program	11	14.1	263
Fellowship	12	13.8	22
Other Scholarship	13	12.9	86
Self (work study)	14	12.1	451
Private Industry Scholarship	15	10.1	19
School Scholarship	16	8.8	81
Optometric Society Scholarship	17	8.6	41

The rank order distributions of financial sources for each individual class year were very similar. The only notable class differences were that the average percent support provided by the military was lower for the first year class (28.5%) than for the other classes (second year, 43.4%; third year 42.8%; fourth year, 35.1%) and that the average percent support provided by fellowships was much lower for the fourth year class (9.8%) than for the other classes for which it was about 20 percent. The data presented on sources of income from the 1970-71 survey was not comparable with the 1975-76 data.

Pre-Optometric Education and Expected Activity of Students

It was hoped that students would provide adequate responses to the questionnaire item which asked that they list all post high school education, major field and degrees, if any, received. From this information, highest degree received and field in which awarded would be determined. However, only 62 percent of students provided usable data for this item. Based on the data provided by these students alone, the following are made as comments only. Approximately 85 percent of these students reported at least bachelor's level pre-optometric education. There were 9 percent with associate level degrees and 6 percent with master's level degrees. Only three students reported completing a doctoral level degree prior to entering optometry school. Among those students who responded to this item, 52 percent majored in the biological sciences. The next most frequently reported major field was the social sciences. None of the remaining major field categories was reported by 10 percent or more of the students. The proportion of students responding to this item by school varied drastically and, therefore, no analysis of these data was done.

As an attempt to get a feel for what students intend to do after completing their optometric educations, each was asked to indicate his initial and ultimate expected activity after graduation. Eighty-six percent of the respondents did complete this item. Although few students responded that they did not know what they would do (2.0% initial, 1.5% ultimate), a fair number checked more than one category (12.2% initial, 7.5% ultimate). A much larger number of activities was checked for initial rather than ultimate intended activity. Table P lists the most frequently reported activities and the percentages of students who so indicated for initial and ultimate activity. The six categories accounted for most of the students, as seen by the total percentages. It is of note that although approximately 24 percent of students expected to work for another optometrist initially, only 0.5 percent expected to be so engaged ultimately.

Looking at these same six categories of activity by class year, where they also account for most students, there were some interesting class differences. The percentage of students who expected to set up practice increased with increasing class year as an initial intended activity (11.8% to 19.4%), but decreased with increasing class year as an ultimate activity (55.4% to 39.6%). Conversely, the percentage of students who expected to enter a partnership decreased with increasing class year as an initial intended activity (23.4% to 18.3%) but increased with increasing class year as an ultimate activity (12.1% to 21.3%). The same pattern held for the percentages of students expecting to enter an optometric group. The proportion decreased with class year as an initial activity (6.9% to 3.0%) but increased with class year as an ultimate activity (5.0% to 7.3%). These reversals of intention may have been indicative of fourth year students being more familiar with and more realistic about optometric practice.

TABLE P

Activity	Percent of Students	
	Initial	Ultimate
Set up Practice	13.2	49.3
Enter Partnership	21.7	15.5
Multidisciplinary Group	2.6	6.9
Enter Optometric Group	4.9	5.9
Work for Optometrist	24.3	0.5
Enter Military	6.0	0.2
TOTAL	72.7	78.3

Acknowledgements

Other key personnel assisting in this study were Barbara B. Shea, Assistant Director, Optometric Manpower Resources Project, and Fred E. Goldberg, O.D., student advisor. Data processing conducted by Control Data Corporation. Additional data and further detailed distributions are available in the final report under the following table headings:

1 Number of Optometry Students per 100,000 Resident Population 1975-76
2A Number of Optometry Students by State of Permanent Residence and School Attended 1975-1976 (All Students)
2B Number of Optometry Students by State of Permanent Residence and School Attended 1975-1976 (Survey Respondents Only)
3 Number and Percent of Optometry Students by Type of Community of Permanent Residence and Intended Practice 1975-1976 (Survey Respondents Only)
4 Number of Optometry Students by Racial Ethnic Background and Sex 1975-1976 (All Students)
5 Number of Optometry Students by Racial Ethnic Background, Sex and School Attended 1975-1976
6 Number of Optometry Students by Racial Ethnic Background, Sex and Class 1975-1976 (Survey Respondents Only)
7 Number of Optometry Students by Racial Ethnic Background and State Region of Permanent Residents 1975-1976 (All Students)
8A Number of Optometry Students by Parents' Income, School and Class 1975-1976 (Survey Respondents Only)
8B Percent Distribution of Optometry Students by Parents' Income, School and Class 1975-1976 (Survey Respondents Only)
9 Number of Optometry Students by Parents' Education and Class 1975-1976 (Survey Respondents Only)
10 Number of Optometry Students by School Attended and Parents' Education 1975-1976
11 Number of Optometry Students by Assets Available, School and Class 1975-1976 (Survey Respondents Only)
12 Number of Optometry Students by Expected Costs, School and Class 1975-1976 (Survey Respondents Only)
13 Number of Optometry Students by Expected Indebtedness, School and Class 1975-1976 (Survey Respondents Only)
14 Optometry Students' Resources for Financing Optometric Education by Rank Order and Average Percent Support by Class 1975-1976 (Survey Respondents Only)
15 Number of Optometry Students by Pre-Optometric Education, Major Field and Optometry School Attended 1975-1976 (Survey Respondents Only)
16 Percent of Students by Class and Initial and Ultimate Intended Activity 1975-1976 (Survey Respondents Only)

References

1 *How Health Professions Students Finance Their Education*. U.S. DHEW Publication No (HRA) 74-13, October 1973.

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Spring 1980

CONTINUING COMPETENCY: THE NEWEST CHALLENGE IN HEALTH CARE

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Annual Survey of Optometric Educational Institutions 1978-79

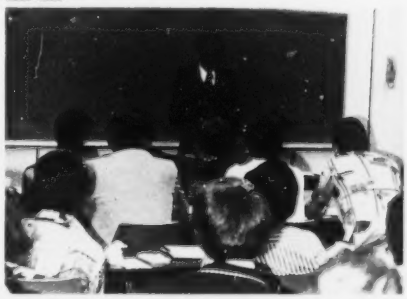
An annual survey of accredited optometric educational institutions is conducted by the Council on Optometric Education (COE) of the American Optometric Association as part of the ongoing process of accreditation. The following report extracts some of the characteristics of student enrollment and financial aid from this survey and summarizes the information for the academic year 1978-79.

Student Enrollment

A total of 4,436 students were enrolled in the professional degree program during the academic year 1978-79. This represented an increase of 5% or 227 students over the previous year's total of 4,209. First-year students totaled 1,181 in 1978-79, representing an increase of 3.6% or 41 students over 1977-78.

An overwhelming majority (70%) of first-year students had four or more years of college when entering optometry school in 1978-79. Of these, 92% had a baccalaureate or higher degree, which represented 64% of the entering class. These percentages were in keeping with those reported in 1977-78 in which 70% of the entering students had 4+ years of college and 64% had a baccalaureate or higher degree.

Women students comprised 20% or 231 of the entering class in 1978-79 and 17% or 757 of the total enrollment. This represented an increase of 2% in the entering class and 17% in total enrollment over 1977-78. Female enrollment has seen a steady increase over the last few years, with women representing 19% or 226 of the entering class in 1977-78 and 15% or 647 of total enrollment.



An overwhelming majority of first year students had four or more years of college when entering optometry school in 1978-79.

Minority student enrollment increased by 4% over 1977-78 figures from 343 students to 358 in 1978-79. However, the percentage of overall student body represented by minority enrollment declined from 8.15% in 1977-78 to 8% in 1978-79. Consequently, even though the number of minority increased in 1978-79, the overall percentage of student body has continued to decline from an all-time high of 8.9% (346 students) in 1975-76.

Of minority students enrolled in 1978-79, 46% were Asian American, 18% Spanish surname, 17% Black American, 14% foreign nationals and 3% native American Indian. Women comprised 35% of the total minority enrollment.

Grade Point Average

The mean grade point average for entering students in 1978-79 was 3.295. This remained about the same as that reported in 1977-78: 3.29. Twelve of the thirteen accredited U.S. optometry schools achieved a mean grade point average of 3.0 or better, and eight institutions achieved a mean GPA of 3.25 or better.

These grade point averages are based on a total of 1,160 entering students for the year 1978-79, as reported in *Information for Applicants to Schools and Colleges of Optometry*, Fall 1980. Information concerning grade point averages was not reported in the COE annual survey.

Financial Aid

The total amount of aid excluding loans** granted to optometric students for the year 1978-79 was $983,041+. This represented a substantial increase of 49% over the previous year's total of $660,317. Of this aid, however, 21% or $207,688 was provided by federal funds and 72% or $711,548 by state funds. While the source of federal aid decreased by 7.6% from the previous year's figure of $224,676, the state share increased by 106.4% from $344,791.

Student loans granted through institutions increased by 65% in 1978-79 from $3,285,196+ in 1977-78 to $5,423,456. Forty percent or $2,168,334 of this amount was from federal sources which represented an increase of 11% from the previous year's share of $1,945,653.

Summary

Overall, these portions of the *1978-79 Annual Survey of Optometric Educational Institutions* show a slight increase in total student enrollment, with a majority of entering students still bringing four or more years of previous college background with them. More than two-thirds of first-year students had a baccalaureate or higher degree.

Female enrollment has continued to climb steadily, with a 17% increase over 1977-78's figures. Minority student enrollment showed a 15% increase in numbers but represented a slight decrease in overall percent of student body. Asian Americans represented the largest group of minority enrollment, followed by Black American, foreign nationals and native American Indian.

The mean grade point average of entering students remained about the same at 3.295. All but one of the thirteen accredited optometric institutions reported a mean GPA of 3.0 or better.

Financial aid in the form of scholarships, fellowships and the like increased substantially over the previous year with the largest share of aid coming from the state. While the federal share decreased by about 7%, the state share of aid increased by more than 100 percent. On the other hand, the federal share of aid for student loans granted through institutions increased, as did the total amount of financial aid through student loans.

A number of abbreviations have been used in the accompanying tables. They are:

Schools

FSC	— Ferris State College
ICO	— Illinois College of Optometry
IU	— Indiana University
NECO	— New England College of Optometry
PU	— Pacific University
PCO	— Pennsylvania College of Optometry
SCCO	— Southern California College of Optometry
SCO	— Southern College of Optometry
SUNY	— State University of New York
TOSU	— The Ohio State University
UAB	— University of Alabama in Birmingham
UCB	— University of California, Berkeley
UH	— University of Houston

Provinces and Territories

CZ	— Canal Zone
PR	— Puerto Rico
USP	— U.S. Possessions
ALB	— Alberta
BC	— British Columbia
MAN	— Manitoba
NB	— New Brunswick
NF	— Newfoundland
NS	— Nova Scotia
ONT	— Ontario
PEI	— Prince Edward Island
QUE	— Quebec
SAS	— Saskatchewan
CAN. TER.	— Canadian Territories
O. COUN.	— Other Countries

Information for Applicants to Schools and Colleges of Optometry, Fall 1980. American Optometric Association, St. Louis, Missouri. No explanation can be given for the discrepancy in numbers of first-year students reported in this booklet and the COE *1978-79 Annual Survey of Optometric Educational Institutions*.

**Includes scholarships, fellowships, grants in aid, etc.

PROFILE OF 1978 ENTERING CLASS

Grade Point Averages

	High	Low	Mean	Number of Students
FSC	N/A	N/A	3.36	30
ICO	N/A	N/A	3.27	155
IU	N/A	N/A	3.52	69
NECO	3.88	2.50	3.18	89
PCO	3.92	2.50[a]	3.20	150
PU	3.96	2.54	3.40	85
SCCO	4.00	2.58	3.26	96
SCO	3.94	2.15	2.91	150
SUNY	3.9	2.7	3.3	68
TOSU	4.00	3.08	3.53	60
UAB	3.84	2.34	3.18	40
UCB	4.00	2.14	3.37	68
UH	4.0	2.7	3.36	100
TOTAL			3.295	1160

Source: *Information for Applicants to Schools and Colleges of Optometry, Fall, 1980*. American Optometric Association, St. Louis, Missouri.

N/A—Not Available

[a]Students normally may not be considered for admission with less than 2.5 (C+) average.

1978-79 Annual Survey of Optometric Educational Institutions Student Enrollments

Number of First Year Students Enrolled With:

	2+ Yrs.	3+ Yrs.	4+ Yrs.	B.A., B.S.	M.A., M.S.	Ph.D.	Total
FSC	8	10	1	11			30
ICO	4	29	10	107	5		155
IU	21	22	3	21	2		69
NECO		6		81	2	7	96
PCO		25		118	7		150
PU	20	26	4	33	1		84
SCCO	7	17	4	67	1		96
SCO	16	26	18	86	4		150
SUNY			10	56	4		70
TOSU	17	17	4	20	2		60
UAB		5		33	2		40
UCB	2	32		34			68
UH	22	23	13	42	5	1	106
U.S. TOTALS	117	238	67	709	35	8	1174

1978-79 Annual Survey of Optometric Educational Institutions Student Enrollment

Full-Time Students Enrolled in the Professional Degree Program

	First Year		Second Year		Third Year		Fourth Year		TOTALS		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
FSC	27	3	23	4	20	2	17	3	87	12	99
ICO	136	21	123	22	131	15	126	18	516	76	592
IU	48	21	46	21	45	17	56	12	195	71	266
NECO	68	28	63	21	67	17	68	19	266	85	351
PCO	120	30	129	24	115	26	111	17	475	97	572
PU	67	17	62	21	63	13	79	7	271	58	329
SCCO	75	21	72	22	82	12	96	7	325	62	387
SCO	142	9	146	6	131	12	129	14	548	41	589
SUNY	53	18	35	23	43	10	36	3	167	54	221
TOSU	47	14	50	9	48	7	47	8	192	38	230
UAB	33	8	29	15	28	4	29	4	119	31	150
UCB	51	17	50	13	50	13	52	15	203	58	261
UH	83	24	80	20	82	17	70	13	315	74	389
U.S. TOTALS	950	231	908	221	905	165	916	140	3679	757	4436

1978-79 Annual Survey of Optometric Educational Institutions
Student Enrollment

Minority Group Students Enrolled

	Black American		Spanish Surname		Native American Ind.		Asian Amer.		Foreign Nationals		TOTALS			% of Student body
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	
FSC	1						1				2		2	2
ICO	1	4	2				16	6	1		20	10	30	5
IU	4	11		4		1	2	2	4	1	10	19	29	11
NECO	4		2				2	4	3	3	11	7	18	5
PCO		5	3	4			1	5	2		6	14	20	3
PU	1		1		3		14	10	1	1	20	11	31	9
SCCO	2		12	1	2		22	11	1		39	12	51	13
SCO	3	1					4	1			7	2	9	2
SUNY		2	1	1	1		2	5	2	1	6	9	15	7
TOSU		2	1				1				2	2	4	2
UAB	5	5									5	5	10	7
UCB	4	3	14	2	1		31	17			50	22	72	28
UH	3	1	15	3	3		5	4	27	6	53	14	67	17
U.S. TOTALS	28	34	51	15	10	1	101	65	41	12	231	127	358	8

1978-79 Annual Survey of Optometric Educational Institutions
Students

	Financial Aid Granted through Institutions Excluding Loans							Student Loans Granted through Institutions					
	Percentage of Students Receiving Aid							Percentage of Students Receiving Loans				Amount	
	1st Year	2nd Year	3rd Year	4th Year	Total	From Federal	From State	1st Year	2nd Year	3rd Year	4th Year	Total	Federal
FSC	19	18	40	N/A	9,902	4,542	4,360	11	54	45	N/A	27,445	26,950
ICO	2	2	2	1	19,404	4,564	8,340	35	24	41	33	197,650	170,700
IU	1	1	1	1	9,000	1,000	8,000	35	35	35	40	160,000	155,000
NECO	25	45	23	7	35,950		19,050	64	50	35	31	216,942	216,942
PCO	1	1	1	6	7,200		3,100	81	61	55	54	1,763,011	37,306
PU	31	48	48	38	305,488	14,000	280,488	49	49	49	49	795,000	188,175
SCCO	53	48	39	15	334,175	36,403	297,772	91	77	100	100	801,680	475,086
SCO	0	0	0	0	0			33	31	30	37	390,650	343,464
SUNY	1	3	3	15	42,900+	5,000	37,900	70	60	65	65	350,000	70,000
TOSU	20	29	27	25	24,405	1,500		28	25	25	35	131,142	106,879
UAB	0	3	0	5	1,400			52	77	72	63	258,874	98,732
UCB	2	2	8	30	16,000	13,653	2,347	10	13	35	42	135,000	115,715
UH	35	35	35	32	177,217	127,026	50,191	20	18	19	33	196,062	163,385
U.S. TOTALS					983,041+	207,688	711,548					5,423,456	2,168,334

1978-79 Annual Survey of Optometric Educational Institutions

Permanent Residence

	Totals													U.S.
	FSC	ICO	IU	NECO	PCO	PU	SCCO	SCO	SUNY	TOSU	UAB	UC	UH	TOTAL
AL			1					2			95			98
AK						5	2					1		8
AZ		2			1	9	18					1		31
AR				1	1			44					18	64
CA		26	4	4	4	35	104	5	2			228		412
CO		2		1	1	15	19	2						40
CT		3	1	38	8	1	3	2						56
DE					8			4						12
DC					2							1		3
FL		11	3	7	13	6	7	60					22	129
GA		2	3	2	1			43			9			60
HI		4	2		1	15	11					4		37
ID						10	7			1		1		19
IL		168	13	3	1	2	4	3						194
IN		6	166	1			3	2						178
IA		47	5			7	13	5						77
KS		2				2	3	17					23	47
KY			2				1	28			8		18	57
LA							3	27			4		27	61
ME				31	1	2	1	3				1		39
MD		8	2	3	44		2	20			7		3	89
MA		5	2	121	7	2	1	2	2			1		143
MI	99	65	6	2	2	5	5	6				2		192
MN		13	3	1	1	18	13	1		1		1		52
MS			1					29			3		6	39
MO		12	6			2	11	6						37
MT						17	17							34
NE		4				7	9	16		3			14	53
NV						7	12					2		21
NH		2		12	2	1		1						18
NJ		2	1	12	78		4	4	3			1		105
NM		2	1			4	15	1				1	9	33
NY		78	5	62	65	11	6	6	211			9		453
NC		2	2		33		1	55			8	1	7	109
ND		5				11	8			3				27
OH		23	4	2	8	1	1	4		218		3		264
OK			2			3	6	43					24	78
OR				1		46	7							54
PA		18	3	10	239	1	4	5	1			1		282
RI		1	1	20	3	1								26
SC		2		1				34			8			45
SD		8		1		6	6							21
TN		3		1				73						77
TX		2					1	1					185	189
UT		1				11	14							26
VT				6			1							7
VA			3	2	29		2	12			8			56
WA		3		1		46	11					1		62
WV		7	1		12			20		3				43
WI		52	17	2		8	14	2		1		1	1	98
WY			1			10	14	1						26
CZ														
PR			1		5		1						1	8
USP							1							1
ALB						1	1							2
BC														
MAN														
NB														
NF													3	3
NS														
ONT									1				1	2
PEI														
QUE				1									1	2
SAS														
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O COUN		1	4	2	2	1			1				26	37
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Summer 1980

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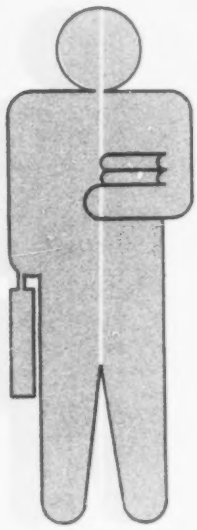

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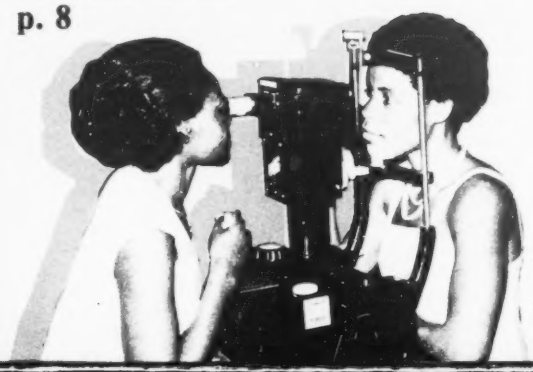

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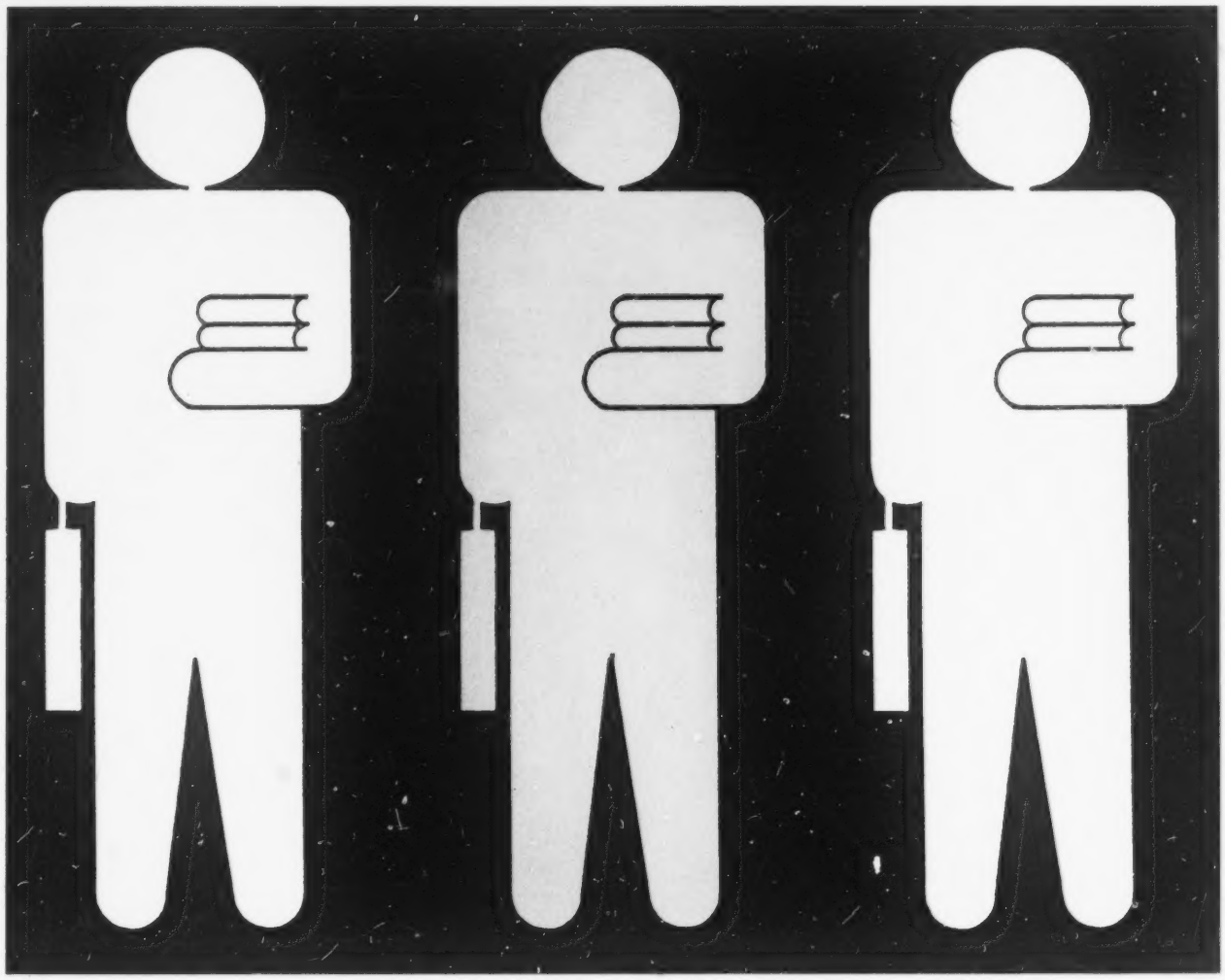


Continuing Education in Schools of Optometry in the United States

Richard B. Elliott

With the rise of continuing education requirements in optometry throughout the United States as a requisite to relicensure, it is not surprising that most of the schools and colleges of optometry in the United States have developed some form of a continuing education program. Because continuing optometric education has become a factor in optometric higher education, and little information seems to exist as to the extent of these programs associated with schools of optometry, a survey was taken of thirteen colleges of optometry in the United States to ascertain the size of programs in each school.

The questionnaire was mailed to the directors of continuing education in August of 1979. By January of 1980 replies had been received from all thirteen schools. Of the thirteen, only one, the Ohio State University College of Optometry, had no formal continuing education program. All twelve of the other schools had formalized continuing education programs, all with an administrator in charge and some clerical assistance available, offering a variety of courses to optometrists and paraoptometric personnel.

The survey, which was in the form of a letter, asked for the following information:

> For the past three academic years, 1976-77, 1977-78, and 1978-79, could you send 1) the total number of continuing education courses offered, 2) the total number of classroom hours, 3) the total number of enrollments, 4) man hours, and 5) the number of persons employed in continuing education, their titles and the percent of their time spent in continuing education.

Richard B. Elliott is director of continuing education at the Southern California College of Optometry, Fullerton, California.

From the responses, the continuing education administrative structure for each of the schools has been summarized. In alphabetical order:

University of Alabama in Birmingham

"Dr. Larry Alexander is currently director of continuing education and spends approximately 25% of his university time on continuing education. Florence Pierce, an administrative assistant for continuing education, spends approximately 50 % of her time on continuing education."

University of California, Berkeley

Two persons are employed in continuing education management. A continuing education technician from University Extension spends one third of total time on optometric continuing education, and an alumni secretary spends one quarter time on continuing education.

Ferris State College

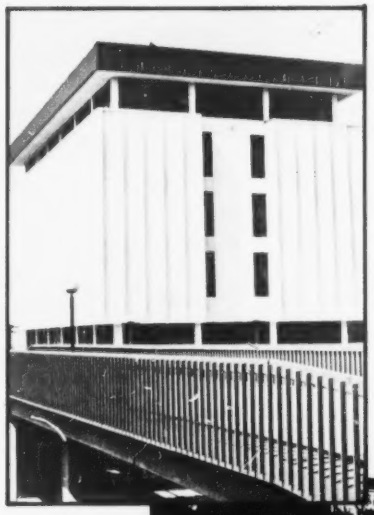
All college continuing education is conducted out of the Office of Continuing Education. Only a very small portion of that office's output has been directed toward optometry.

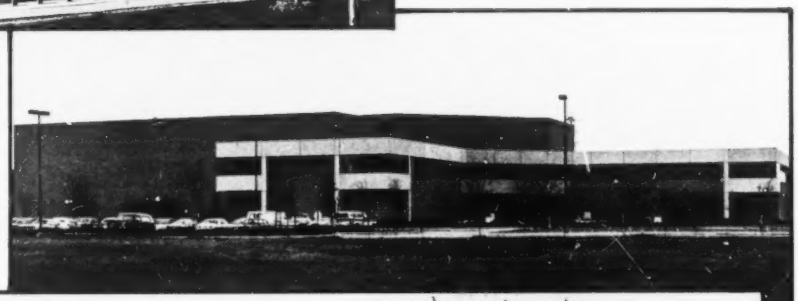
University of Houston

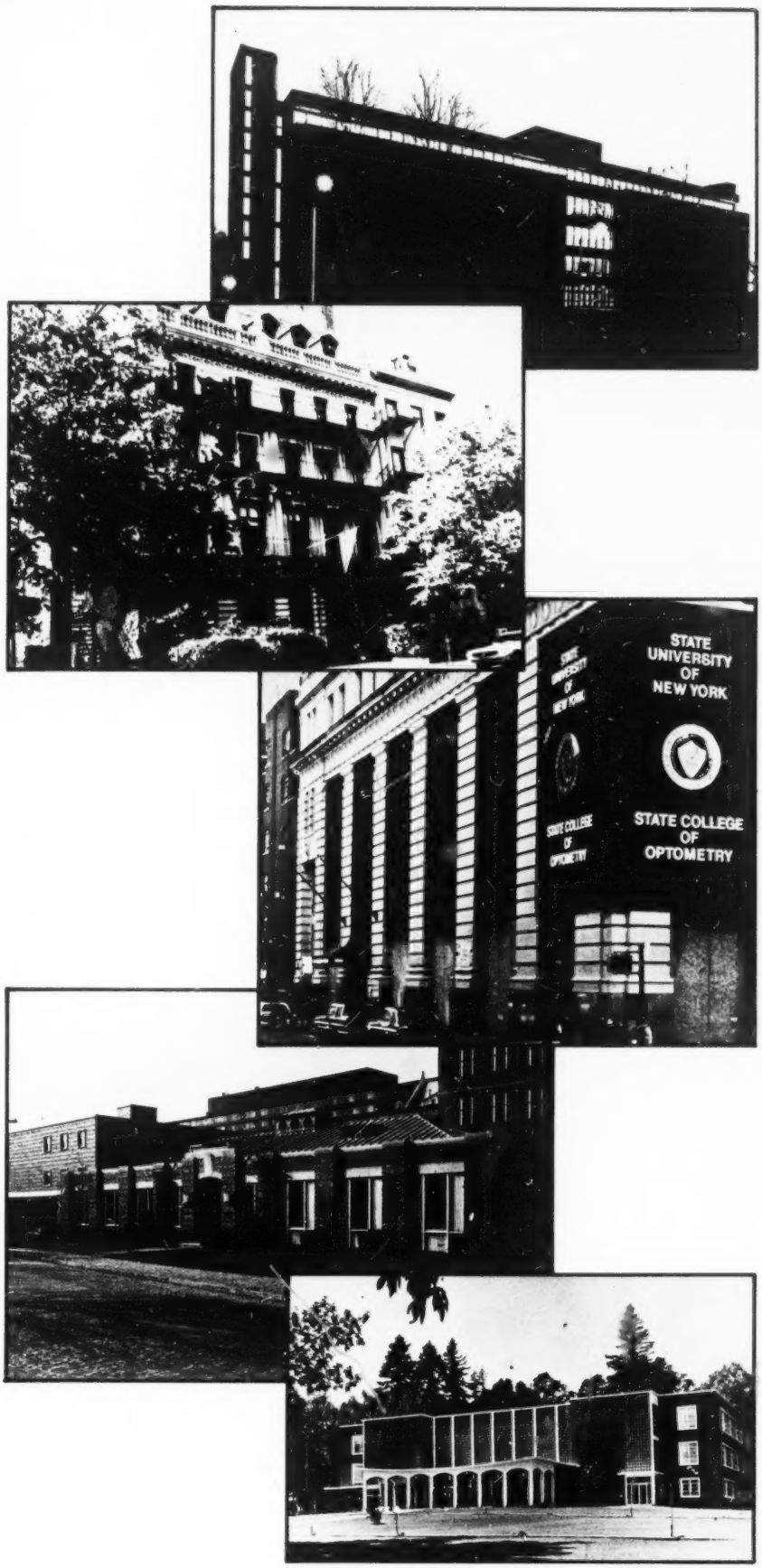
Two persons are employed in optometric continuing education. Herbert H. Moore, O.D., is director of continuing education and spends one-quarter of his time devoted to that employment. He has a full-time assistant to the director working with him. (Dr. Moore has subsequently been replaced as director by Jerome Rosner, O.D.)

Illinois College of Optometry

"The Director of Public Affairs (Ralph C. Hough) and his secretary are expected to spend up to one-quarter of their time on continuing education."







Indiana University

Continuing education is conducted only during the summer at which time Freddy W. Chang, O.D., Ph.D., is director of continuing education full time. He has an assistant, usually a student, working with him during this time. This constitutes about one-quarter time that each person devotes to continuing education.

The New England College of Optometry

A Director of Continuing Education, Matthew Garston, O.D., spends 30% of his time in continuing education. Assistant Director Anthony Cavallerano, O.D., gives 20% of his time. An administrative assistant, Jo Levin, M.Ed., devotes full time. Additionally, a secretary works 75%, and student assistants are hired for help in registration, computer operation and hospitality.

State University of New York

The dean for academic affairs and services spends about 20 % of his time as coordinator for continuing education. He is assisted by Rhonda Rothberg, assistant for continuing education, for about 70% of her time.

Ohio State University

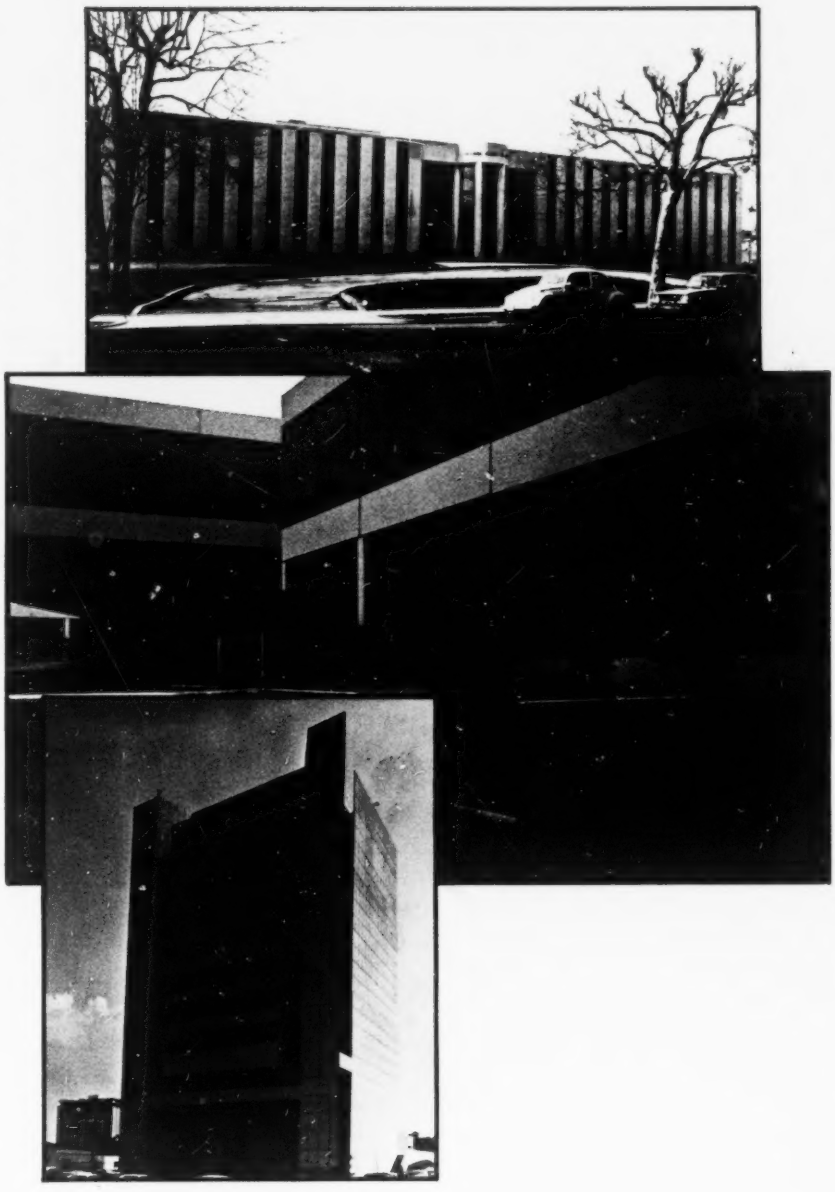
"We do not have a director of continuing education," wrote Frederick W. Hebbard, O.D., Ph.D., dean of the College of Optometry. "And, in view of the many continuing education programs that are already available here in Ohio, we are currently not offering any of our own."

Pacific University

Two persons are employed in continuing education. They are the Director of Continuing Education, Larry R. Clausen, O.D., M.P.H., who devotes about 25% of his time to this responsibility, and a secretary who is employed half-time for continuing education.

Pennsylvania College of Optometry

The Center for Continuing and Post-Graduate Education is headed by a full-time Interim Director, Elizabeth M. Smith, O.D. She is assisted by three full-time secretaries: Eleanor Haight, Mary Jimison and Ruby Wilson. Thus, there are four full-time persons employed at Pennsylvania, the largest continuing education staff at a college of optometry.



Southern California College of Optometry

Two full-time persons are employed in the department of continuing education: the Director of Continuing Education Richard B. Elliott, M.A., the only non-optometrist continuing education director among the colleges, and his assistant, Doris Caldwell. In addition, student assistants are hired throughout the year on an ad hoc basis for registration, maintenance, hospitality, and mail room responsibilities.

Southern College of Optometry

The Director of Continuing Education, Harvey T. Brown, O.D., M.Ed., averages about 63% of his time devoted to that task. He has a half-time secretary assisting him.

From this survey of continuing education office manpower, it is evident that the majority of schools operates continuing education programs on a part-time basis. Only two have a full-time director: Southern California College of Optometry and Pennsylvania College of Optometry, and four maintain full-time staffs: Houston, New England, Pennsylvania and Southern California.

Table 1 is a chart showing information supplied by the thirteen colleges. In two instances, Ferris State and Indiana University, the man hours figure was not supplied; and, of course, since Ohio State has no directly sponsored continuing education, their listing is blank. Ferris State also has blank listings for 1976-77, since they were not in operation at that time. Otherwise, all information is as reported.

One note of caution needs to be made. Unfortunately, in the letter of inquiry asking for information, a formula for computing man hours was not supplied by the investigator. The other information requested such as number of courses and number of enrollments is a standard factor. However, man hours could be misunderstood. The formula for computing man hours is usually individual course classroom hours times course enrollment equals man hours.It should not be total classroom hours for all courses times total enrollments for the year, which some schools may have used. Since this formula was not given, it is possible, even likely, that the figures supplied by the various schools as "man hours" could be based upon widely varying formulae. Certainly the great diversity in numbers reported could suggest this. The numbers are therefore reported as received but may not be comparable.

To give a better idea of what has happened in continuing optometric education during the past year, several groups

TABLE 1

Continuing Education in U.S. Colleges of Optometry

School or College	1978-79				1977-78				1976-77			
	Courses	Hours	Enrollments	Man hours	Courses	Hours	Enrollments	Man hours	Courses	Hours	Enrollments	Man hours
University of Alabama, Birmingham	8	98	265	3,242	7	76	176	2,088	6	66	175	1,888
University of California, Berkeley	18	298	1,174	25,357	19	286	1,664	32,831	16	184	1,516	31,576
Ferris State College	6	27	47		5	30	53					
University of Houston	12	76	735	4,570	16	149	792	3,342	14	214	787	6,538
Illinois College of Optometry	40	135	275	300	71	175	280	295	54	100	230	236
Indiana University	20	234	168		20	978	132		20	318	179	
New England College of Optometry	25	223	748	6,474	28	240	797	9,095	21	175	723	5,669
State University of New York	37	170	1,150	5,550	34	400	1,100	5,500	33	270	900	4,500
Ohio State University												
Pacific University	7	74	185	1,872	10	152	190	2,840	14	414	353	8,644
Pennsylvania College of Optometry	23	429.5	2,688	1,159,960	21	575.5	2,727	1,569,308	23	429.5	2,688	1,154,960
SCCO	53	447	2,018	22,998	65	759	2,879	39,923	55	421	1,723	19,850
Southern College of Optometry	14	84	178	252	12	112	440	334	9	89	173	267

of figures have been combined to give comparative data for 1978-79. Arrangement in order of frequency of course offerings in 1978-79 is as follows:

1. SCCO	53
2. Illinois	40
3. New York	37
4. New England	25
5. Pennsylvania	23
6. Indiana	20
7. University of California	18
8. Southern	14
9. Houston	12
10. Alabama	8
11. Pacific	8
12. Ferris	6
13. Ohio	0

Number of classroom hours in descending order for 1978-79 is as follows:

1. SCCO	447
2. Pennsylvania	429.5
3. University of California	298
4. Indiana	234
5. New England	223
6. New York	170
7. Illinois	135
8. Alabama	98
9. Southern	84
10. Houston	76
11. Pacific	74
12. Ferris	27
13. Ohio	0

Number of enrollments in descending order for 1978-79 is as follows:

1. Pennsylvania	2,688
2. SCCO	2,018
3. University of California	1,174
4. New York	1,150
5. New England	748
6. Houston	735
7. Illinois	275
8. Alabama	265
9. Pacific	185
10. Southern	178
11. Indiana	168
12. Ferris	74
13. Ohio	0

It is fairly evident from the survey that continuing education is a significant function in the majority of colleges of optometry. It is also evident that the largest programs emanate from those schools which devote sufficient resources to allow the program to grow. The two largest programs are at Pennsylvania College of Optometry and Southern California College of Optometry, the only two colleges employing a full-time director of continuing education. Maybe the conclusion to draw from this is that, given a greater incentive, optometric continuing education would become a far more important factor in the schools of optometry. This would, in turn, place the administration of continuing education in the hands of educators experienced in the development and production of quality continuing education programs. □